SECTION C

This document covers thermostabilized Western-style scrambled eggs packaged in a polymeric tray for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-E-006, EGGS, SCRAMBLED, WESTERN-STYLE, PACKAGED IN A POLYMERIC TRAY, SHELF STABLE

C-2 PERFORMANCE REQUIREMENTS

A. Product standard. A sample shall be subjected to first article or product demonstration model inspection as applicable, in accordance with the tests and inspections of Section E of this Performance-based Contract Requirements document.

B. Commercial sterility. The packaged food shall be processed until commercially sterile. Thermally processed product shall be free of swelling or microbial activity when tested in accordance with section E-5, B, (1) of this Performance-based Contract Requirements document.

C. Shelf life. The packaged product shall meet the minimum shelf life requirement of 36 months at 80^{o}F.

D. Appearance.

(1) General. The product shall be scrambled eggs with diced ham, diced sweet green peppers and chopped onion uniformly distributed throughout the product. The packaged food shall be free from foreign materials.

(2) Eggs. The color of the finished product shall be a typical yellow cooked egg color or slightly darker. The finished product shall be practically free of starch lumps, air pockets or void areas.

(3) Ham (no water added). The ham shall be dice sizes typically produced by a 3/8 inch dicer setting. The cooked ham shall be free of bone or bone fragments, cartilage, coarse connective tissue, tendons or ligaments, and glandular material. The cooked, diced ham shall have a cooked color.

(4) Vegetables. The vegetables shall be diced sweet green peppers and chopped onion.

E. Odor and flavor. The packaged food shall have an odor and flavor of well blended Western-style scrambled eggs with ham, cheese, diced sweet green peppers and chopped onion. The packaged food shall be free from foreign odors and flavors.

F. Texture.

(1) Egg. The egg product shall be moist, moderately soft, and shall not be rubbery.

(2) Ham. The cooked, diced ham shall be moist and tender.

(3) Vegetables. The vegetables shall be slightly soft to slightly firm.

G. Net Weight. The average net weight shall be not less than 94 ounces. No individual polymeric tray shall have a net weight of less than 92 ounces.

H. Free liquid weight. Free liquid weight in an individual tray shall be not more than 3.0 ounces.

I. Palatability and overall appearance. The finished product shall be equal to or better than the approved product standard in palatability and overall appearance.

J. Analytical requirements.

(1) Protein content. The protein content shall be not less than 9.0 percent.

(2) Fat content. The fat content shall be not greater than 13.5 percent.

(3) Salt content. The salt content shall be not less than 1.0 percent and not greater than 1.5 percent.

C-3 MISCELLANEOUS INFORMATION

THE FOLLOWING IS INFORMATION ONLY TO PROVIDE THE BENEFIT OF PAST GOVERNMENT EXPERIENCE. THIS IS NOT A MANDATORY REQUIREMENT.

A. Ingredients/formulation. Ingredients and formulation percentages for the western-style scrambled eggs may be as follows:

Ingredients	Percent by weight
Liquid or frozen whole eggs	43.000
Diced ham (no water added)	23.000
Water	19.407
Vegetable oil	6.000
Modified waxy maize pre-gelatinized instant starch	3.500
Uncolored dehydrated cheddar cheese	2.000
Dehydrated chopped onion	1.750
Dehydrated sweet green peppers	0.600
Salt 1/	0.600
Ground white pepper	0.090
Citric acid	0.050
Dry or liquid annatto color (15% norbixen)	0.003

1/ The total amount of salt in formula may be adjusted as necessary to produce a product that complies with the finished product salt requirement.

SECTION D

D-1 PACKAGING

A. Preservation. Product shall be filled into polymeric trays and the trays with protective sleeves shall conform to the requirements of section 3 of MIL-PRF-32004A, Packaging of Food in Polymeric Trays. Verification testing and inspection of trays, lids and sleeves shall be in accordance with Section 4 of MIL-PRF-32004A and the Quality Assurance Provisions of Section E of this Performance-based Contract Requirements document.

B. Polymeric tray closure. The filled, sealed, and processed tray shall be securely closed.

D-2 LABELING

A. Polymeric tray body. One side of each polymeric tray shall be clearly printed or stamped, in a manner that does not damage the tray, with permanent ink of any contrasting color, which is free of carcinogenic elements. To avoid erroneous marking of trays, the

product name, lot number and filling equipment number shall be applied prior to processing. All other tray marking may be applied before or after processing. If these markings are applied along the tray body side (see figure 1 of MIL-PRF-32004A), or if applied along the tray body end, are not readily legible in low light conditions, a small, easily legible label detailing product name and number of portions shall be applied along one tray body end, but not over any existing tray markings. 1/

Tray body markings shall include:

(1) Product name. Commonly used abbreviations may be used when authorized by the inspection agency.

(2) Tray code includes: 2/
Lot Number
Filling equipment identification number
Retort identification number
Retort cook number

1/ As an alternate method, tray body markings may be clearly printed or stamped onto the polymeric tray lid prior to processing, in a manner that does not damage the lid, with permanent ink of any contrasting color, which is free of carcinogenic elements, provided that the required markings are applied onto the tray body after processing.

2/ The lot number shall be expressed as a four digit Julian code. The first digit shall indicate the year of production and the next three digits shall indicate the day of the year (Example, 6 April 2001 would be coded as 1096). The Julian code shall represent the day the product was packaged into the tray and processed. Sublotting (when used) shall be represented by an alpha character immediately following the four digit Julian code. Following the four digit Julian code and the alpha character (when used), the other required code information shall be printed in the sequence as listed above.

B. Polymeric tray lid. The lid shall be clearly printed or stamped, in a manner that does not cause damage. Permanent ink of any contrasting color, which is free of carcinogenic elements, shall be used. As an alternate labeling method, a pre-printed self-adhering 0.002 inch thick clear polyester label printed with indelible contrasting color ink may be used.

(1) Lid labeling shall include:
Product name
Ingredients
Net weight
Name and address of packer
Official establishment number (for example, EST 38) or a three letter code identifying the establishment

(2) Lid labeling shall also show the following statements:

TO HEAT IN WATER: Submerge unopened tray in water. Bring water to a boil. Simmer gently ~~40 – 45~~ 35-40 minutes. Avoid overheating (tray shows evidence of bulging).

WARNING: Do not heat tray in oven.

TO TRANSPORT AFTER HEATING: Insert tray back into protective sleeve to protect during transport. If sleeve is unavailable, stack trays lid-to-lid with fiberboard pads in between.

CAUTION: Use care when opening as pressure may have been generated within the tray.

TO OPEN: Using a clean knife, cut the lidding around the inside perimeter of the tray seals.

SUGGESTION: Cut lid along 3 sides and fold over uncut portion. Fold back to keep unused portions protected.

YIELD: Serves 18 portions of approximately 2/3 cup each.

D-3 PACKING

A. Packing for shipment to ration assembler. Four filled, sealed, processed and sleeved polymeric trays shall be packed in a snug fitting fiberboard box conforming to style RSC-L, type CF, grade 275 of ASTM D 5118, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The sleeved trays shall be placed flat with the first two trays placed with the lids together and the next two trays with the lids together. The box shall be closed in accordance with ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers.

D-4 UNITIZATION

A. Unit loads. Unit loads shall be as specified in DSCP FORM 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items.

D-5 MARKING

A. Shipping containers and unit loads. Marking of shipping containers and unit loads shall be as specified in DPSC FORM 3556 Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence.

SECTION E INSPECTION AND ACCEPTANCE

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required. When required, the manufacturer shall provide the certificate(s) of conformance to the appropriate inspection activity. Certificate(s) of conformance not provided shall be cause for rejection of the lot.

A. Definitions.

(1) Critical defect. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the ration.

(2) Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

B. Classification of inspections. The inspection requirements specified herein are classified as follows:

(1) Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this document and evaluated for overall appearance and palatability. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection of the lot. The approved first article or product demonstration model shall be used as the product standard for periodic review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

US Army Soldier & Biological Chemical Command
Soldiers System Ctr., Natick Soldier Center
Attn: AMSSB-RCF-F(N)
15 Kansas Street
Natick, MA 01760-5018

One lot shall be randomly selected during each calendar month of production. Two (2) sample units of each item produced shall be randomly selected from that one production lot. The two (2) sample units shall be shipped to Natick within two (2) working days upon completion of all USDA inspection requirements. The sample units will be evaluated for the characteristics of appearance, odor, flavor, texture and overall quality. Failure of samples to conform to all such characteristics may be cause for rejection.

(2) Conformance inspection. Conformance inspection shall include the examinations and the methods of inspection cited in this section.

E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. Product examination. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQC Z1.4 - 1993. The lot size shall be expressed in trays. The sample unit shall be the contents of one tray. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 4.0 for major defects and 6.5 for minor defects. Defects and defect classifications are listed in Table I below. The trays shall be heated in accordance with the heating instructions from the tray label prior to conducting any portion of the product examination.

TABLE I. Product defects 1/ 2/ 3/

Category		Defect
Major	Minor	
		Appearance
101		Product not scrambled eggs with diced ham, diced sweet green peppers and chopped onion uniformly distributed throughout the product.
102		Bone or bone fragment measuring more than 0.3 inch in any dimension.
103		Product is not a typical yellow cooked egg color or slightly darker.
	201	Product shows visible lumps of starch.
	202	Presence of two or more air pockets or void areas measuring 1/2 inch or more in each of two separate dimensions.
	203	Presence of three or more air pockets or void areas measuring 1/4 inch or more in each of two separate dimensions.
	204	Ham dices not a cooked ham color.
	205	Vegetables not diced sweet green peppers or not chopped onions.
	206	Total weight of cartilage, coarse connective tissue, tendons or ligaments, and glandular material is more than 2.0 ounces.
		Odor and flavor
104		Odor or flavor not of Western-style scrambled eggs with ham, cheese, diced sweet green peppers and chopped onions.
		Texture
105		Egg product not moist or not moderately soft.
106		Egg product is rubbery.
	207	Diced ham not moist or not tender.
	208	Vegetables not slightly soft to slightly firm.
		Net weight
	209	Net weight of an individual polymeric tray is less than 92 ounces. 4/
		Free liquid weight
	210	Free liquid weight in an individual polymeric tray more than 3.0 ounces. 5/

1/ The presence of any foreign material such as but not limited to, dirt, insect parts, hair, wood, glass, metal, or mold or the presence of any foreign odors or flavors such as, but not limited to burnt, scorched, rancid, sour, or stale shall be cause for rejection of the lot.

2/ Finished product not equal to or better than the approved product standard in palatability and overall appearance shall be cause for rejection of the lot.

3/ Size for the ham dices and no water added requirement shall be verified by certificate of conformance.

4/ Sample average net weight less than 94 ounces shall be cause for rejection of the lot.

5/ To test for free liquid weight the polymeric tray shall be opened and the lid shall be held in place. The tray shall be elevated on end, so that any liquid will flow out of the opened corner, and drained for 1 minute, collecting the free liquid. The free liquid shall be reported to the nearest 0.1 ounce.

B. Methods of inspection.

(1) Commercial sterility. Incubate at 95^0F ± 5^0F for 10 days, unless otherwise specified by the inspection agency.

(2) Shelf life. The contractor shall provide a certificate of conformance that the product has a 3 year shelf life when stored at 80^0F. Government verification may include storage for 6 months at 100^0F or 36 months at 80^0F. Upon completion of either storage period, the product will be subjected to a sensory evaluation panel for appearance and palatability and must receive an overall score of 5 or higher based on a 9 point hedonic scale to be considered acceptable.

(3) Net weight. The net weight of the filled and sealed polymeric tray shall be determined by weighing each sample unit on a suitable scale tared with a representative empty tray and lid. Results shall be reported to the nearest 1 ounce.

(4) Starch lumps, air pockets, and void areas. From each sample polymeric tray of product, remove one 3 inch wide center slice (sliced lengthwise of the tray). Place center slice on edge and cut in half lengthwise. Inspect right inside surface for air pockets and void areas and starch lumps.

(5) Analytical. The sample to be analyzed shall be a composite of three filled and sealed polymeric trays which have been selected at random from the lot. The composited sample shall be prepared (see NOTE) and analyzed in accordance with the following methods of the Official Methods of Analysis of AOAC International:

Test	Method Number
Protein	984.13, 992.15
Fat	985.15
Salt	935.47

Test results shall be reported to the nearest 0.1 percent. Any nonconforming results shall be cause for rejection of the lot.

NOTE: The USDA will use AOAC method 983.18 for preparation of the sample.

E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS, POLYMERIC TRAY)

A. Packaging and labeling.

(1) Polymeric tray testing. For purposes of clarification, the polymeric tray without the lid will be referred to as the "tray" and the polymeric tray with the lid shall be referred to as the "container". The polymeric tray with protective sleeve and polymeric tray material shall be examined for the characteristics listed in table I of MIL-PRF-32004A, Packaging of Food in Polymeric Trays. The lot size, sample unit, and inspection level criteria are provided in table II below for each of the test characteristics. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot. For rough handling survivability at frozen temperature, polymeric tray survival rate shall be at least 85 percent.

TABLE II. Polymeric tray quality assurance criteria

Prior to processing

Characteristic	Lot size expressed in	Sample unit	Inspection level
Tray configurations and dimensions	Trays	1 tray	S-1
Oxygen gas transmission rate of tray	Trays	1 tray	S-1
Oxygen gas transmission rate of lid	Yards	1/2 yard	S-1
Water vapor transmission rate of tray	Trays	1 tray	S-1
Water vapor transmission rate of lid	Yards	1/2 yard	S-1
Camouflage	Containers	1 container	S-1

After processing

Characteristic	Lot size expressed in	Sample unit	Inspection level
Processing	Trays	1 tray	S-2
Rough handling survivability	Test containers	1 container	S-2
Protective sleeve	Containers	1 container	S-1
Residual gas	Containers	1 container	S-1
Closure seal	Containers	1 container	S-1
Internal pressure	Containers	1 container	S-1
Lid opening	Containers	1 container	S-1

(2) Examination of container. The container with protective sleeve removed shall be examined for the defects listed in table II of MIL-PRF-32004A and the labeling defects listed in table III below. The lot size shall be expressed in containers. The sample unit shall be one processed and labeled container. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major A defects, 2.5 for major B defects and 4.0 for minor defects. Two hundred sample units shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

TABLE III. Container labeling defects

Category		Defect
Major A	Minor	
101		Polymeric tray lid or body labeling missing, incorrect or illegible.
	201	When a pre-printed self adhering label is used, the label not

adhering to tray lid (for example, label raised or peeled back from edge to corner) or presence of any areas of gaps along the perimeter of the label where the label is not properly adhered.

(3) Label adhesive examination. When self-adhering labels are used, the adhesive shall be tested in accordance with ASTM D 3330. In lieu of testing, a certificate of conformance (COC) shall be provided.

B. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table IV below. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

TABLE IV. Shipping container and marking defects

Category		Defect
Major	Minor	
101		Marking omitted, incorrect, illegible, or improper size, location sequence or method of application.
102		Inadequate workmanship. 1/
	201	Arrangement or number of polymeric trays not as specified.

1/ Inadequate workmanship is defined as, but not limited to, incomplete closure of container flaps, loose strapping, inadequate stapling, improper taping, or bulged or distorted container.

C. Unitization.

(1) Unit load examination. The unit load shall be examined in accordance with the requirements of DSCP Form 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items. Any nonconformance shall be classified as a major defect and shall be cause for rejection of the lot.

SECTION J REFERENCE DOCUMENTS

DSCP FORMS

DSCP FORM 3507 Loads, Unit: Preparation of Semiperishable Subsistence Items
DPSC FORM 3556 Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence

MILITARY SPECIFICATIONS

MIL-PRF-32004A Packaging of Food in Polymeric Trays

GOVERNMENT PUBLICATIONS

Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder (21 CFR Parts 1-199) and (9 CFR Parts 1-391)

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQCZ1.4-1993 Sampling Procedures and Tables for Inspection by Attributes

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 1974 Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers
D 3330 Peel Adhesion of Pressure-Sensitive Tape
D 5118 Standard Practice for Fabrication of Fiberboard Shipping Boxes

AOAC INTERNATIONAL Official Methods of Analysis of the AOAC International

AMSSB-RCF-FN (Valvano/4259) 6 March 2003

TO: DSCP-HRUT (Charya/3832)

Subject: (ES03-068) Document Changes; Various Polymeric Entrees; Reduction of Heating times from 40-45 minutes to 35-40 minutes

1. Natick reviewed several polymeric entrees with regard to reheating times. Some components such as creamed ground beef or pork sausage in gravy may not need the longer heating time period.

2. The polymeric items involved are:

Eggs, Scrambled, Western-style, Polymeric Tray	PCR-E-006	9 Apr 01
Pasta & Italian Sausage, Polymeric Tray	PCR-P-017	14 Feb 01
Eggs, Scrambled, Polymeric Tray	PCR-E-005	11 Jan 01
Chicken Chow Mein, Polymeric Tray	PCR-C-010	18 Dec 00
Lasagna w/Meat Sauce, Polymeric Tray	PCR-L-003	6 Dec 00
Beef Chunks w/Noodles in Sauce, Polymeric Tray	PCR-B-023A	11 Oct 00
Bread Stuffing, Polymeric Tray	PCR-B-028A	12 Oct 00
Chicken w/Vegetables Teriyaki, Polymeric Tray	PCR-C-033A	12 Oct 00
Chili with Beans, Polymeric Tray	PCR-C-034A	12 Oct 00
Pork Sausage in Cream Gravy, Polymeric Tray	PCR-P-014A	11 Oct 00
Cream Gravy w/Ground Beef, Polymeric Tray	PCR-C-040	20 Jun 00
Beef Stew, Polymeric Tray	PCR-B-024	24 May 00
Mashed Potatoes w/Gravy, Polymeric Tray	PCR-M-007	12 Apr 00
Omelet w/Smoked Sausage, Polymeric Tray	PCR-O-006	12 Apr 00
Chicken Breast in Gravy, Polymeric Tray	PCR-C-032	29 Nov 99
Hash, Corned Beef, Polymeric Tray	PCR-H-005	29 Nov 99

3. Natick requests DSCP implement the following change as indicated for the listed documents above. Items that have been deleted from the menus are not included. It is best to modify the contracts in order to get this time change in prior to the next printing of the rollstock film for the lid material.

Sec D, D-2,B Polymeric tray lid: In “TO HEAT IN WATER” after “Simmer gently”, delete “40-45” and insert “35-40”.

4. The attached document files include the lower heating times and are applicable for pending and future procurements until the document is formally revised or amended.

16 Attachments

DONALD A. HAMLIN
Team Leader
Food Engineering Services Team
Combat Feeding Directorate

CF: NSC:
Acheson
Alashian
Friel
Hamlin
Harrington
Konrady A.
Richards
Swantak

R Valvano

CF: DSCP & SVCs:
Beward
Bankoff
Byrd
Charette
Henry
Malason
Miller
Salerno

Trottier
Valvano

Dyduck
Ferrante